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J. R. Raker



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UNITED STATES DEPARTMENT OF EDUCATION  
THE SECRETARY

July 31, 1997

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Honorable Reed E. Hundt  
Chairman  
Federal Communications Commission  
1919 M Street, N.W.  
Washington, DC 20554

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

Re: Federal-State Joint Board on Universal Service  
CC Docket No. 96-45

Dear Chairman Hundt:

In Section X of the May 8, 1997 Federal Communications Commission Report and Order on Universal Service, you unanimously created the E-rate, under which almost all of the nation's elementary and secondary schools and public libraries will be entitled to deep discounts from the lowest corresponding rates for telecommunications and other eligible services. In paragraphs 571 and 574 of that ruling the Commission requested recommendations from the Department of Education on the design of E-rate applications that schools and libraries will submit, and on alternative measures for the required approval of technology plans.

We consider the establishment of the E-rate to be of historic significance in the development of this nation's elementary and secondary school and public library telecommunication systems. We applaud you and your fellow Commissioners for having carried out the intention of the Snowe-Rockefeller-Exon-Kerrey Amendment to the Telecommunications Act of 1996 in such a comprehensive and effective manner. When staff from the Department and the National Telecommunications and Information Administration of the Department of Commerce met with the Commission's staff just prior to the ruling,<sup>2</sup> we offered broad assistance in the implementation of the E-rate, including the specific matters later assigned to us. We were pleased to receive the assignment and have proceeded quickly to complete our work to ensure that the system is ready to process applications before funding starts on January 1.

<sup>1</sup>In paragraphs 571 and 581 the Commission also requested recommendations as to a separate subcontractor for the E-rate application process and an independent auditor. The Commission withdrew the additional requests in paragraphs 26 and 65 of its Second Order on Reconsideration of July 18, 1997.

<sup>2</sup>See ex-parte letter of April 25, 1997.

BLOCK 3: CERTIFICATION, SIGNATURE AND SEAL OF NOTARY PUBLIC

I certify that I am authorized to submit this notification on behalf of the above-named requester, that I have examined this notification and to the best of my knowledge, information and belief, all statements of fact contained herein are true. I am aware that persons making willful false statements on this form can be punished by fine or imprisonment under Title 18 of the United States Code, 18 USC §1001.

\_\_\_\_\_  
Signature

\_\_\_\_/\_\_\_\_/\_\_\_\_  
Date

\_\_\_\_\_  
Printed name of authorized person

\_\_\_\_\_  
Title or position of authorized person

Seal of notary public

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Date Commission Expires

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Although you requested assistance only from this Department (and the Institute of Museum and Library Services, in the case of alternative approval measures for library technology plans), we believed that we could do a more effective job by continuing to work with our sister agencies, the Departments of Agriculture and Commerce, with whom we have collaborated since the inception of the Commission's consideration of the E-rate. In addition, we wanted to formally recognize the contribution of the Education and Library Networks Coalition (EdLiNC), an ad hoc alliance of 33 representative organizations from the elementary/secondary education and library communities, in the creation of the E-rate, by more fully utilizing the practical expertise of its members in technology planning and procurement. Accordingly, the enclosed report was developed by a Working Group composed of the four Federal agencies and EdLiNC.

The report of the Working Group deals primarily with the specific assignments that the Commission gave us. It also covers certain other matters that we found necessary to consider in order to address the specific assignments. In formulating our recommendations, we attempted to adhere to certain bedrock principles:

1. Protection of the integrity and accountability of the Universal Service Fund, including the prevention of fraud, waste and abuse, is of paramount importance. In particular, we should be faithful to the intent of Congress and the Commission in targeting schools and libraries with high rates of poverty and in rural areas for special discounts, the full benefits of which should be received by the intended beneficiaries.

2. We should minimize the burden on schools and libraries, and maximize their flexibility in applying for E-rate discounts.

3. We should fit the E-rate application process to the existing complex, varied and decentralized processes by which schools and libraries inventory existing technology components, plan for their use and further acquisitions, and procure telecommunications and other eligible services. We should minimize the need for those existing processes to be changed to accommodate the E-rate application process.

4. We should fit the E-rate application process to the existing, varied governance structures for schools and libraries created by State and local law and minimize the creation of new Federal requirements.


5. We should facilitate competition among service providers by providing them with needed information and by preserving the technological neutrality of the application process.

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In certain areas, potential inconsistencies among these bedrock principles posed real challenges for the Working Group. We believe, however, that as a result of the deliberations we managed to achieve the best balance among the principles in terms of satisfying the requirements of the Telecommunications Act of 1996 and preserving the public interest.

We believe the Working Group has been a very productive collaboration and the Department stands ready to continue to work with the other members of the group in providing whatever additional assistance the Commission may need. We will be in touch with you shortly to set up a meeting to discuss the report and any further assistance that might be helpful to the Commission.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Dick Riley", with a stylized flourish at the end.

Richard W. Riley

Report to the Federal Communications Commission (FCC)

by

The E-Rate<sup>1</sup> Implementation Working Group (Working Group)

composed of

U.S. Department of Education  
Institute of Museum and Library Services  
National Telecommunications and Information Administration  
Rural Utilities Service  
Education and Library Networks Coalition

July 31, 1997

## I. Introduction and Recommendations

This report is intended to respond to the request from the FCC<sup>2</sup> for recommendations on (1) the design of application forms to be submitted by schools and libraries for Universal Service Fund (USF) support and (2) alternative measures (from review by the State education or library agency) for the required approval of technology plans as part of the E-rate application process. In responding to this request for specific recommendations, it has been necessary for the Working Group to flesh out certain details of the application process provided by the FCC.

The Working Group met continually throughout the months of June and July, both as a full group and in subgroups assigned to specific matters. Individual members of the Working Group invited others from the education and library communities with special expertise to join meetings. We have also spoken extensively to the parties in the field who will actually operate the E-rate system: educators and education administrators, librarians and library administrators, State public utility

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<sup>1</sup>The term E-rate, or Education Rate, has become common usage for the maximum-price limitation and discount rates established by the FCC in Section X of its report and order released on May 8, 1997, in Federal-State Joint Board on Universal Service, CC Docket No. 96-45 (E-Rate Ruling).

<sup>2</sup>See paragraphs 571 and 574 of the E-Rate Ruling. Unless otherwise indicated, further citations are to paragraphs of this ruling or to sections of the regulations under Title 47 of the Code of Federal Regulations, as amended in Appendix I of the E-Rate Ruling.

commissioners and staff, service providers, the interim Fund Administrator and information-technology experts. The Working Group also held a briefing session for all interested parties. The practical input of those outside the Working Group has been very valuable.

Although various members of the Working Group had previously made recommendations different from the decisions made by the FCC in the E-Rate Ruling, we all agreed for purposes of this task to work within those decisions whenever possible. As in any joint effort, every member of the Working Group does not necessarily agree completely with every one of the report's specific recommendations. There is, however, consensus on the report as a whole as our best recommendation for the implementation of the E-rate; and we all join in supporting it on that basis.

In this report we first summarize the application process as set forth in the E-Rate Ruling and describe some of the complexities posed by the varied, decentralized processes by which schools and libraries inventory their existing technology resources, plan for their use and for further technology acquisitions and procure the additional resources. We then provide the recommendations arising from the FCC's requests in the context of these complexities. The proposed application forms are contained in Appendix C. The Working Group's other specific recommendations are:<sup>3</sup>

II-1. A standard of materiality or substantiality should be promulgated to obviate any need to re-post minor modifications to contracts.

IV-1. The Schools and Libraries Corporation (SLC)<sup>4</sup> should explore the development of standardized data formats for the inventory/assessments and other information submitted in the application process.

V-1. SLC should explore the establishment of a data warehouse, or relational data base, to capture that

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<sup>3</sup>The recommendations are listed in their order in the report and are numbered by the sections in which they appear.

<sup>4</sup>In the E-Rate Ruling the FCC assigned responsibility for the application process to the Fund Administrator. In its report and order in Changes to the Board of Directors of the National Exchange Carrier Association, Inc., CC Docket No. 97-21 and its second order on reconsideration in this matter, jointly released on July 18, 1997 (July 18 Ruling), the FCC reassigned this responsibility to SLC, a new unaffiliated entity to be established by the interim Fund Administrator.

information where it already resides, integrate it into applications and make it available for analysis.

VI-1. Service providers have confirmed that Requests for Proposals (RFPs) and other detailed descriptions of services requested would not be very useful to them in culling out promising prospects for more detailed analysis. Until these documents can be more effectively digitized, they should be made available on request by the applicant rather than posted on the website. Applications should, however, contain a short, summary description of the applicant's objectives in procuring the services and a standardized checklist specifying those services, both of which would be posted.

VI-2. The requirement for inventory/assessments should not be implemented until after this interim phase.

VI-3. At least during the interim phase, applicants should not send technology plans to SLC. Instead, applicants should certify compliance with the planning requirement, identify the plans and the required approvals in their work papers, and provide them to SLC upon request.

VI-4. At least during the interim phase, applicants should not send executed contracts to SLC. Instead, applicants should retain executed contracts in their working papers and provide them to SLC upon request.

VII-1. The calculation of discount rates for applicants representing multiple schools and/or libraries should be governed by the same principles, whether the applicants are legal governance entities, such as school districts, library systems or States, or consortia formed for particular procurements.

VII-2. In an application for multiple service acquirers in which they are to be billed directly by the service provider for the services that they individually receive, the appropriate individual discount rate should be applied to each separate bill.

VII-3. In an application for multiple service acquirers with central billing, the individual discount rates for those users should be averaged on a weighted basis, using projected allocations of directly allocable services and projected distributions of common or shared services that cannot be directly allocated as the weighting factors. In calculating discount rates in the first instance, applicants should

allocate to each school and/or library those services that can be so allocated, using detailed breakdowns that should be furnished by the service providers. In distributing common or shared services, which are incapable of such direct allocation and breakdowns, the applicant should be able to use reasonable proxies, such as numbers of computers or, when it is the only significant factor affecting distribution of services, population (either by a population-weighted average or by an area-wide calculation). To accommodate the legacy billing systems of at least some service providers, the applicant should round the resulting aggregate discount rate to the nearest five percent. The applicant should maintain work papers to support its discount rate calculations. The work papers should be publicly available, reviewable at any time by SLC and in fact be reviewed immediately by SLC if the rate exceeds parameters in a filtering program that SLC should develop. The FCC should develop principles to determine the appropriate consequences when the actual distributions of services, as indicated by detailed bills from service providers, differ from the projections used in calculating the aggregate discount rates.

VII-4. In all applications involving multiple service acquirers, the applicants should strive to ensure that each eligible school and library receives the discount to which it is entitled. In all cases, the applicant should calculate the discount rate(s) in the first instance, although SLC should retain ultimate responsibility for validity of the rate(s). The service provider should not be responsible for the allocation of nonallocable shared or common services under central billing, but it should be required to provide detailed breakdowns of allocable nonshared costs by individual school and library whenever possible.

VII-5. SLC should create a list of individual discount rates for every school and library for which the necessary data is publicly available and post that list on the website.

VII-6. Since service providers state that they do not need discount rates to formulate bids, and projections based on specific services should be more reliable than those at the initial application stage, discount rates should be calculated in funding requests rather than in initial applications.



VIII-1. If the State education or library agency chooses to delegate its authority to review technology plans, it should notify SLC.

VIII-2. As an alternative review mechanism for technology plans, SLC should create a peer-review process, using intermediate independent organizations to administer the process when they are available.

VIII-3. A common minimum general standard should be promulgated by the FCC for the approval of all technology plans after the interim period. The standard should be used immediately for all new technology plans.

VIII-4. A separate technology plan should not be required for USF support. An existing technology plan, including one preapproved for the E-rate, should satisfy the E-rate requirement as long as it has been approved in accordance with the above standard.

VIII-5. Technology plans should be reapproved at least every five years. Although, subject to the granting of annual funding requests, applicants should be entitled to USF support for longer multiyear contracts, the applicable technology plan should be required to justify the extended duration of the contract, either with respect to continued use of the services or as a payment option.

## II. Application Process Provided by E-Rate Ruling

The application process provided by the E-Rate Ruling starts with a filing with SLC by the party seeking to contract for the procurement of eligible services. On this form the applicant is to describe the services that it plans to procure in sufficient detail to enable potential providers to formulate bids (§§570, 575). These descriptions may be formal RFPs, particularly if required by, or most consistent with, State or local acquisition requirements, or less formal descriptions (§575). The applicant must also submit an inventory/assessment prepared by a person authorized to make purchases for a school or library, reviewing existing and planned facilities and providing at least information as to six specific educational-technology components (§§570, 572). The applicant is also required to have specific plans for using the inventoried technologies over the near term and into the future, including integration into its curriculum, although it is not clear whether these plans are to be submitted to SLC (§573). This technology plan must be independently approved, ideally by the State agency overseeing schools or libraries, unless already approved for other purposes (for example, participation in Federal or State programs such as

Goals 2000 or the Technology Literacy Challenge Fund) (§574).<sup>5</sup> Finally, the application is to contain the poverty level of each school for school applicants and each school district for library applicants, the identity of all copurchasers and allocations of services in consortium procurements, and certain specified certifications (§§522-25, 574, 576-77).

SLC is to review all applications for completeness (§575). It is then to post them, including the RFP/descriptions of services, on its website to attract bids (§575). SLC is to calculate the discount(s) to which the applicant is entitled, to supplement the poverty information from the applicant (§528, 576; see also §67 of the July 18 Ruling). The website is to be searchable by zip codes, number of students (schools) or patrons (libraries), number of buildings and other data in the applications (§576). Posting of the application is to be confirmed to the applicant (§54.504(b)(3)). The applicant must wait four weeks after posting to sign a contract for the requested services (§579). Existing contracts are not subject to the posting requirement for at least a limited period of time.<sup>6</sup>

After signing a contract, the applicant is to submit to SLC the contract itself and a funding request based upon its estimated funding needs under the contract for the current and following funding years, although the contract may be contingent on funding (§§535 & n.1396, 579). The contracts may be filed electronically or by paper copy (§536).<sup>7</sup> The applicant must also provide

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<sup>5</sup>Paragraph 67 of the July 18 Ruling authorizes SLC to review and certify technology plans when a State agency indicates that it will be unable to do so within a reasonable time.

<sup>6</sup>In the E-Rate Ruling the FCC granted a permanent exemption from the posting requirement for all contracts signed before November 8, 1996 (§§545, 549, 607). In paragraphs 5-12 of its Order on Reconsideration released on July 10, 1997, the FCC expanded the definition of existing contracts to all those signed before the posting system becomes operational. The additional contracts were granted only a limited exemption from posting for services provided prior to December 31, 1998.

It is quite common for contracts for telecommunications and other related services to be modified while in effect, often by changing the nature or quantity of the services provided or extending the durations. The Working Group recommends that the FCC promulgate a standard of materiality or substantiality for an exemption from the posting requirement for minor modifications.

<sup>7</sup>The methods of filing are specified only for funding requests (§536), but the alternatives are presumably available for applications and service notifications, also.

documentation on recurring and nonrecurring fixed charges and estimated variable usage charges (§536). If sufficient funds remain, SLC is to commit them and notify the applicant that funding has been approved (§579). Although annual application and posting are not required for multiyear contracts, funds are to be committed only for services during the current funding year (§§536-537, 544, 579).

The applicant may begin receiving service under the contract as soon as approval of its funding request has been received (§580). Once service actually commences, the applicant is to notify the SLC to approve reimbursement (§580).<sup>8</sup>

### III. Aggregation/Disaggregations

The Snowe-Rockefeller-Exon-Kerrey Amendment to the Telecommunications Act of 1996 is written in terms of discounts to schools and libraries. Accordingly, in the E-Rate Ruling the FCC adopted a discount-rate matrix for individual schools and libraries (§520).

In fact, most applications for E-rate support will likely be by higher-level entities (such as school districts, library systems and States) or consortia acting on behalf of multiple service acquirers. With the exception of some private schools and libraries, this will occur because technology procurement does not ordinarily take place at the building level. Rather, for schools it most frequently takes place on an aggregated basis at the district level or, particularly in the case of telecommunications services, at one of the higher governance levels (such as a State) or through an entity (such as an education service agency) formed expressly to provide services to schools. For libraries procurement often takes place through group purchase plans, site licenses and other arrangements by members of regional library consortia or through established State contracts. Thus, the entity applying to procure the supported services may well not have a discount rate of its own.

The situation is further complicated by the fact that, although most inventories of existing technology components would at least

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<sup>8</sup>Paragraphs 51 and 65 of the July 18 Ruling describe this form as though it may be a periodic notification of support due, rather than a one-time notification of commencement of service.

originate at an individual school or library,<sup>9</sup> technology planning by schools is more likely to take place on an aggregated basis at one or more of the district, city/county (particularly in the case of large, multidistrict metropolitan areas), or State levels. Thus, an education applicant seeking to procure the supported services may well not have an inventory/assessment and/or approved technology plan of its own and will need to aggregate that information from a number of lower-level entities. By contrast, library technology planning does usually take place at the individual-building level. Even when main or central libraries plan for their branches, the branch managers normally participate in the process; and when regional library consortia engage in technology planning for consortia-wide services and applications, such planning does not replace or preclude technology planning by the individual libraries.

The components of a comprehensive information-technology program may also be disaggregated. An individual school might, for example, procure its internal connections at the district level, receive its Internet access from a geographically larger education service agency and be part of a State network for its voice and data feed. Thus, as a result of decentralized procurement, the school's eligible services would be divided among multiple E-rate applicants covering different universes of end users. Indeed, some of those applicants, such as education service agencies, may function more as service providers to schools and libraries than as governing bodies. In that limited capacity they will not conduct the technology planning for any or all of the schools and libraries to which they provide the supported services.

In addition to the potential for existing higher-level entities as applicants, the E-Rate Ruling encourages the formation of consortia of otherwise independent entities to procure telecommunications services jointly in order to achieve lower prediscount prices (§§ 476-77, 561-63, 569). Consortia would not ordinarily have a governance relationship with their members and thus may not be involved in their inventory/assessments and technology plans. Although higher-level entities could either pay the contract costs themselves or arrange for direct payment or reimbursement by the covered schools and/or libraries, consortia members would ordinarily pay their own bills directly.

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<sup>9</sup>For example, electrical capacity would probably be inventoried at the building level. Wide-area networks would be inventoried at the level where they are administered. Staff development could be inventoried at the building level, if measured by hours, or at a higher level, if measured by expenditures.

An effective but minimally burdensome methodology must be established to achieve the desired goals in the context of this widespread aggregation and disaggregation.

#### IV. Data Standardization

The Working Group has seen RFPs and other detailed descriptions of services run in excess of one thousand pages. Although the E-Rate Ruling directs SLC to make these posted documents searchable by various quantifiable data about the schools and libraries covered by the application, searches of the information in the RFP/descriptions of services themselves will necessarily be limited. Similarly, although the requirements for the inventory/assessments cover specific subject matters, the methods of quantification have not been provided.<sup>10</sup>

Textual data, such as the RFP/descriptions of services and the inventory/assessments, may be scanned optically to convert it to machine-readable form. Files of such data may then be accessed by search engines that look for individual words or combinations of words. The data may also be classified and aggregated using such techniques, but such operations are cumbersome and subject to substantial inaccuracies. Moreover, both applicants and SLC would have to incur substantial expenses in collecting, scanning and storing the massive number of documents that will be generated by the well in excess of 100,000 schools, libraries, higher-level entities and consortia that can be expected to participate in the E-rate.

Far more efficient and productive use may be made of large quantities of data if it is recorded or summarized in standard record formats, and the standardized data are input into the system. Standardized summary data can then be used to identify underlying detailed but unstandardized data for further analysis and can be analyzed in their own right. The detailed unstandardized data can either be scanned into the system or simply held in a convenient location in paper form for examination by parties interested in it on the basis of the summaries. Service providers have confirmed to us that the RFP/descriptions of services would be much more useful to them if maintained in this manner.

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<sup>10</sup>For example, electrical capacity could be measured by a receptacle count or by building amperage. See also n.9, above. Some fine tuning may be necessary in the inventory/assessment specifications. For example, the specifications refer to modems and their speeds (§572), but most local-area networks would use Ethernet cards or similar devices.

The RFP/requests for proposals and inventory/assessments provide a good example of the substantial benefits that could be achieved from the data collection already required by the E-Rate Ruling, if standardized data formats were provided for summaries of the former and the text of the latter. Standardized summaries of the RFP/requests for services, which were intended to provide information to potential service providers, could also be aggregated and analyzed to establish a baseline for existing telecommunications services in schools and libraries and to measure their growth as the operation of the E-rate progresses. Standardized inventory/assessments, which were intended to ensure that applicants "had done their homework" and provide backup for the required certification as to funding for the necessary hardware, software and staff training for effective use of the requested eligible services (§577(5)), could serve the same analytical purpose for the other necessary technology components. In combination, this standardized information could be an important component for a management information system for the use of the school and library governing bodies responsible for the management of educational technology systems. Finally, as recommended by the Departments of Commerce and Education in their ex-parte filing of April 25, 1997, fact-finding activities should be undertaken to aid in monitoring the performance of the E-rate process. In the early years of the E-rate, before the effects on educational outcomes can be measured, the changes in aggregate inventories that could be measured with aggregated standardized data could be an important component of this measurement process.

Very painstaking effort would be required to ensure that any standardized data formats are very simple and require the least possible change from existing data collection efforts by schools and libraries and their governing bodies. Even standardized data collection should involve only data that is truly necessary and creates incremental expense, if any, that is commensurate with the value of the data. Minimization of bureaucracy and burden, and maximization of productivity should be the goals of any standardization effort. The Working Group's impression is that such would be the case here, but until the necessary field work has been done, we limit our recommendation to a request that the FCC instruct SLC to explore which data already required to be collected should be standardized.

#### V. Data Warehouse

The scale of the data-collection effort resulting from the huge number of participants in the E-rate application process requires a very sensible and cost-effective system. In addition, because of the mismatch, under the various existing governance systems for schools and libraries provided by State and local law, of (1) the entities that have inventory data about individual schools and libraries, (2) those that do technology planning and

those that procure eligible services, there is probably no "perfect" solution for the complexities caused by aggregation/disaggregation. An appropriate solution to collect the data in a sensible, comprehensive and cost-effective manner could be the creation of a publicly accessible national data warehouse. Such a set of relational databases would capture all of the necessary information where it is actually generated, store it in digitized form and allow its incorporation by reference as appropriate in E-rate applications.

One file in the data warehouse could be for individual schools and libraries, containing all the information best capturable at that level. Such information would include a unique identifier for the school or library, physical location (from which its cost category could be obtained by a table lookup), contact person, population, building count, poverty measure, technology inventory and identification of the technology plan(s) applicable to it (using the unique identifiers from the technology plan file). Although the data for each school/library record might be input by the school or library itself and/or by some higher-level entity, completion of the record and certification of its accuracy by the school or library would be a condition of its E-rate eligibility.

Another file could be maintained for technology plans. The actual text of each plan might be stored in digital form, but at a minimum the identity of its reviewer and date of approval could be included in a machine-processable record that assigned a unique identifier to the plan. A database record format might be devised to summarize other characteristics of the plan and facilitate computer searches and analyses.

The E-rate applications could comprise the third file. The applications could be greatly simplified, because a simple listing of the unique identifiers of the individual schools and libraries covered by the application would allow automatic machine reference to the applicable data in the school/library and technology plan files. The application itself would, in addition, need only information about the applicant and the application, a standardized summary description of the services to be acquired to facilitate computer searches and analyses, and the required certifications.

Individual members of the Working Group consulted informally on the application process with several experts in information systems. All believed that a data warehouse would be the best system to handle the E-rate application process. The consensus of the experts was that the system could be created in less than a year and at a cost of about \$5 million to SLC. We recommend that the FCC direct SLC to explore the feasibility and cost effectiveness of establishing such a data warehouse and, if

necessary, to subcontract with an expert in data processing to assist it in the task.

#### VI. Interim Requirements

It is probably not possible to establish a data warehouse or similar system or to achieve good data-format standardization in time to begin disbursing funds in January 1998. Although this should not be allowed to delay the starting date for the E-rate, the application process must be largely paper driven until a highly computerized system can be implemented. Since large quantities of information that has simply been digitized in textual form will be of limited usefulness, the Working Group recommends that at least during the interim phase RFP/descriptions of services should not actually be transmitted to SLC, but should instead be made available to potential bidders on request. In lieu of such transmission, the Working Group recommends the use of standardized checklists, along with a short summary description of the applicant's objectives in procuring the services, to identify material for more detailed study. We have included such checklists in our recommended application forms.<sup>11</sup> The information required by the summary and checklists would be transmitted to SLC and posted on the website. Service providers have confirmed to members of the Working Group that this information would be more useful to them in initially culling out promising bidding prospects for further analysis than the actual RFP/descriptions of services, and they helped the Working Group develop the recommended checklists. The providers would want to see the more detailed documents on a more selective basis only after establishing a preliminary interest from the summary and checklists.

Because of budget cycling for schools and libraries, most E-rate applications submitted prior to the start of the 1998-99 school year will likely be for existing contracts within the meaning of the E-Rate Ruling. The Working Group recommends that flexibility similar to that extended to those contracts with respect to posting should be given to the inventory/assessment and approved technology plan requirements at least during the interim period.

As indicated previously, E-rate applicants will frequently not have inventory/assessments of their own but will need to rely on lower-level entities covered by their applications. Many schools and libraries already conduct inventories for their own use.

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<sup>11</sup>Although members of the Working Group had some discussions with service providers to attempt to ensure that these checklists are technologically neutral, the timetable for our work did not allow a sufficiently thorough investigation of the matter. If the FCC accepts the Working Group's recommendation as to the checklists, it should confirm their technological neutrality.



However, existing inventories are not in standardized form, and schools and libraries should not be required to conduct new inventory/assessments until detailed specifications for them are available. Lead time is necessary for high-quality standardization, and the baseline data obtained from the first round of inventories should be of very high quality. In addition to existing school and library inventories of their own, similar information is already collected for other Federal and State programs, such as the surveys by the National Center of Education Statistics and the National Commission for Library and Information Science. In designing standardized inventory/assessments for the E-rate, every effort should be made to relieve the problem of multiple collections of similar data. Accordingly, the Working Group recommends that the inventory/assessment requirement not be implemented until after the interim period.

With respect to technology plans, we agree that schools and libraries should not be afforded the benefits of the E-rate without "doing their homework" (§571). In fact, we believe that most schools and libraries are already covered by some pre-approved technology plan. There should be no need, however, for SLC to collect those plans at least during the interim period. We recommend that at least during the interim period the applicant be required to certify that every school and library receiving supported services under its application is covered by an approved technology plan, to identify those plans and approvals in its application or work papers and to provide them to SLC upon request.<sup>12</sup>

## VII. Aggregate Discount Rates

The E-Rate Ruling establishes a matrix for calculating an individual discount rate for each eligible school and public library in the nation, based on a specified poverty measure and its classification as urban or rural (§520). As discussed at pages 7-8, however, most procurements eligible for E-rate support will likely involve contracts covering multiple schools and/or libraries. Depending on the services ordered and the method of payment under such a contract, it may be appropriate to apply the individual discount rates, to calculate an aggregate discount rate for the entire contract or to use a combination of the two methods. In calculating any such aggregate discount rates, it must be remembered that the Snowe-Rockefeller-Exon-Kerrey

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<sup>12</sup>The Working Group believes that standardization of the contracts for eligible services would interfere with State and local procurement requirements without substantial apparent benefits. We do recommend, however, that at least during the interim phase applicants retain the contracts in their working papers and provide them to SLC upon request.

Amendment and the E-Rate Ruling specifically identify schools and libraries with high enrollment of students in poverty or in rural areas as those that should most benefit from USF support. The benefit of their special discounts was not intended to be accorded, as the result of some mathematical calculation, to schools and libraries not entitled to them. Accordingly, although the calculation of aggregate discount rates should be as simple and flexible as possible, applicants that calculate an aggregate rate should still be required to strive to ensure that each covered school and library receives the full benefit of the discount to which it is entitled.

The FCC has recognized the impact of aggregation on discount rates and has established averaging as an alternative methodology for calculating aggregate discounts for applications covering multiple schools and/or libraries (§§523-24, 528, 569, 576).<sup>13</sup> Under the E-Rate Ruling, applicants that are school districts, library systems or States are to strive to ensure that each school and library covered by their applications receives the full benefit of the discount to which it is entitled (§§523-24). Service providers to consortia are to keep careful records, maintained on a reasonable basis of approximation, and publicly available, of the allocation of the cost of shared facilities (§576).

The Working Group recommends that the methodology and application process in the E-Rate Ruling be further clarified to ensure that they achieve the desired goal of targeting poor and rural schools for special discounts in a minimally burdensome manner, and that the same methodology and process apply both to higher-level governance units for schools and libraries and to consortia. The choice of methodology should depend on the allocability of the services to individual schools and/or libraries and whether billing for the services is central or distributed, not on the legal status of the applicant.

When a single application is filed for a contract covering multiple schools and libraries that will pay their own bills directly, there should be no need to calculate an aggregate discount rate.<sup>14</sup> The applicable individual discount rate should

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<sup>13</sup>See also §§54.505(b).

<sup>14</sup>This could happen, for example, in the case of a consortium contract or a State bid list that individual lower-level units have the option of using. The Working Group recommends that such master contracts should be subject to competitive bidding through posting only before signing by the consortium or State. When a school, library or higher-level entity eligible to use the master contract elects to obtain eligible services under the contract, it should be allowed to

be applied to each bill. The applicant should still strive to ensure that each school or library receives the full benefit of its own discount, and the service provider should retain its record-keeping responsibilities with regard to cost allocation.<sup>15</sup> When the applicant pays the contract charges, however, an aggregate discount rate would be calculated for the funding request.

Whether individual schools and/or libraries reimburse the applicant for contract charges paid at that level, or the applicant absorbs the full cost itself, calculation of an aggregate discount rate should presumably be designed to yield the same dollar amount of overall USF support as would have occurred in the distributed-billing configuration. The "perfect" solution for calculation of an aggregate discount rate for central billing would thus require measuring the actual services received by each school and library (including metering of services with charges based on the amount of usage), and then weighting the individual discount rates by the measurements of services actually received. However, sophisticated subsystems would be needed to meter the distributed usage of centrally acquired telecommunications services, and the "perfect" methodology would not allow service acquirers and providers to know the applicable discount rate until after the services had already been provided. At the other extreme, a simple (unweighted) average of the applicable individual school and library discount rates would cause high-volume users (likely users with large populations and/or ample resources of their own) or applicants acting on their behalf to benefit or suffer from the rates of the low-volume users. A population-weighted average of the individual school and library discount rates might reflect potential distribution of the centrally billed services, other things being equal; but the availability of other resources may well be a more significant determinant of that distribution than population.

The Working Group believes that the appropriate methodology for the calculation of discount rates for contracts involving central billing for services provided to multiple schools and/or libraries is to average the individual discount rates for those users weighted by the projected allocation of directly allocable

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file a combined application and funding request without a second posting. The original applicant could still have the option of filing an aggregate funding request to earmark funds for the contract as soon as possible, and combined application/funding requests from individual schools and libraries or higher-level entities would then be credited against this amount.

<sup>15</sup>This would be the case if the individual bills were based on the services actually used by each school and/or library.

services and the projected distribution of nonallocable common or shared services. The applicant should make the calculation in the first instance. Since SLC should retain its ultimate responsibility for the validity of discount rates, the applicant should be required to maintain its calculation work papers for SLC, which would also be available for audit and for public inspection. The FCC seems to have allowed some flexibility in the allocation of costs within consortia and to have balanced that flexibility with a similar requirement with respect to work papers (§569). This solution would be an expanded version of that allocation system.<sup>16</sup>

The Working Group recommends that the following principles be adhered to in the calculation of weighted averages for applications involving multiple schools and/or libraries and centralized billing:

For those services that can be directly attributed to an individual school or library, the discount level for that school must be directly applied to that service. Service providers should be required by regulation and/or by applicants' RFP/descriptions of services to provide detailed breakdowns of projected allocable non-shared costs by individual school and/or library to facilitate this attribution.

For services that are "shared" or "common" to multiple schools and/or libraries (that is, cannot be broken down by user and allocated directly), the applicant will need to determine a rational cost-allocation method. In determining such a method, the applicant should have great flexibility in determining the appropriate methodology for projecting allocation of eligible services covered by the applications that cannot be so broken down and directly allocated. In appropriate circumstances, such methods could include (but are not limited to) the number of networked computers in each school or library divided by the total number of networked computers in the school district or library system. If the applicant can demonstrate that factors other than population affecting allocation of services do not vary substantially, another possible methodology would be to

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<sup>16</sup>Calculation of weighted averages will often result in aggregate discount rates that are not on the matrix in the E-Rate Ruling. Some service providers have informed members of the Working Group that their legacy computerized billing systems will only accommodate a limited number of discount levels. We recommend that applicants round their aggregate discount rates to the nearest five percent to accommodate the service providers.

base the allocation on population, either by calculating an average of the individual discount rates weighted by population (the population of individual schools divided by the total district population or the population of library service areas divided by the total population served by the library system) or by calculating an area-wide poverty rate and then applying the special discounts for rural areas.<sup>17</sup> Appendix A contains two tables illustrating the different methods of calculating aggregate discount rates for central billing. The first table contrasts simple, population-weighted, and service-weighted averaging when services are unevenly distributed and shows the economic incentive that service weighting creates for more even distribution of services. The second table shows the similarity of population-weighted averages and area-wide calculations when they are evenly distributed.

The "work papers" that the applicant should maintain for SLC to show the methodology used to arrive at a discount level should also be available for auditing purposes and to the public. Those work papers should contain not only the applicant's actual calculations, but also a short explanation in layman's language of the rationale for calculating the aggregate discount rate in that manner, including how it assures each school and library the full benefit of the discount to which it is entitled. Finally, the applicant must certify that the discount rate has been calculated according to the principles outlined above.<sup>18</sup>

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<sup>17</sup>An area-wide poverty calculation is not technically an average but a ratio. In doing an area-wide discount-rate calculation using such a ratio, the applicant should not be able to consider itself entirely rural unless that is actually the case. To ensure that the special discounts for rural schools and libraries are not extended to urban areas, the Working Group recommends that separate aggregate discount rates be calculated for rural and urban entities, and that the two rates in turn be averaged on a population-weighted basis.

<sup>18</sup>Because of the importance of ensuring that schools and libraries do in fact get the full benefit of the discounts to which they are entitled, the Working Group recommends that SLC develop a computer program to identify funding requests in which the aggregate discount rate calculated by the applicant exceeds certain parameters, such as its relationship to the applicable individual discount rates. In such cases, but without delaying the application process, SLC should review the applicant's work papers to verify the calculation before funds are actually disbursed from the Universal Service Fund, rather than waiting

Because the applicant and the service provider have the relevant information concerning allocation of services, and we expect most applications to involve central billing and at least some common or shared services that cannot be broken down by individual user and allocated directly, we recommend that the applicant rather than SLC calculate the discount rate(s) for the contract in the first instance, although SLC would retain its ultimate responsibility for the validity of the discount rate(s). Service providers should be relieved of the responsibility to allocate the cost of shared services when they cannot do so. To guide applicants in their responsibility to calculate their own discount rates, the Working Group recommends that SLC create a list of individual discount rates for every school and library for which the necessary data is publicly available and post that list on the website.

Service providers have told members of the Working Group that, since discount rates affect only the timing of the payments that they ultimately receive rather than the total,<sup>19</sup> they do not need to know the rate(s) before responding to a posting. Moreover, projecting allocations of services before the specific services have even been identified is particularly prone to error. Subject to further confirmation of service providers' needs, the Working Group recommends that applicants (or the eligible parties actually paying the bills) calculate their discount rates in the first instance in their funding requests rather than in their initial applications. Moving the discount rate calculation to the funding request would also eliminate the necessity for applicants representing multiple schools and libraries that will be billed separately either to calculate a pro forma aggregate discount rate that will never be used, or to submit to SLC a possibly very long list of individual schools and libraries and their individual discount rates (possibly thousands in the case of a State applicant). In a data warehouse, however, the information on individual schools and libraries would automatically be integrated into the application by reference to their unique identifiers.

Since the FCC's requests for recommendations were limited to the application process, and most members of the Working Group are not sufficiently familiar with the disbursement processes currently used for USF support, we have not attempted to deal with the consequences that should flow from differences between actual distributions of services, as indicated by detailed bills

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for the possibility that it might be reviewed after the fact in a random audit.

<sup>19</sup>In paragraph 51 of the July 18 Ruling, the FCC established a 40-day time limit for payment from the time of notification by the eligible party paying the bill.

from service providers, and their projected distributions for purposes of calculating aggregate discount rates. In the absence of such differences, application of the previously projected aggregate rate should yield the same mathematical result, at least before any rounding, as the application of individual rates to all directly allocable services broken out in the detailed bills. If the differences between actual and projected distributions in services result in higher aggregate discount rates, the applicants will presumably file amended funding requests. In determining the consequences of differences potentially resulting in lower discount rates, the FCC should, of course, protect the integrity of the E-rate and the targeted nature of its high discounts. When the FCC makes that determination, however, the Working Group does urge it to keep in mind the highly leveraged nature of the E-rate for high-discount applicants, and the potentially great financial impact on them from relatively small absolute changes in the calculated discount rates which they may have used to commit themselves to substantial contractual obligations.

#### VIII. Approval of Technology Plans

The Working Group recommends that the sole approvers for State plans should be the U.S. Department of Education for education plans and the Institute of Museum and Library Sciences for library plans. As provided in the E-Rate Ruling (¶574), the preferred reviewers for other technology plans should be the State education agency for education plans and the State library agency for library plans.<sup>20</sup> Those State agencies could delegate their responsibility, including establishment of a peer review process to perform the approval function. The State should be required to notify SLC of any such delegation, so that SLC would know what approvals are authorized in that State, and should also retain responsibility for the approvers operating under its jurisdiction. As an alternative approval mechanism for schools and libraries that are not required by applicable State or local law to obtain State approval for technology plans and telecommunications expenditures, SLC should authorize peer reviews administered by other independent entities, including existing peer reviews used by nonpublic schools for accreditation, or in the absence of sufficient third-party peer review processes establish a peer review process of its own.<sup>21</sup>

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<sup>20</sup>Technology plans for schools under direct Federal jurisdiction, such as Bureau of Indian Affairs and territorial schools, should be reviewed by the appropriate Federal agency.

<sup>21</sup>See note 5, above, for review by SLC as an alternative to State review. SLC would presumably have authority to treat the cost of peer review under its jurisdiction as an administrative expense or impose a fee to fund the review process on parties

The Working Group appreciates the FCC's designation of all technology plans previously approved for participation in Federal or State programs as preapproved for the purpose of the E-rate application process (§574). In our view this designation is appropriate, since it would take at least several months to formulate and review new technology plans. We assume that most schools and libraries are already covered by preapproved plans, and the requirement of an approved technology plan will accordingly not delay the January 1 start of E-rate support. Since these preapproved plans have been approved for a variety of Federal and State programs, however, the criteria for approval vary widely.

The Working Group believes that after the interim period all technology plans should be reviewed under a common minimum general standard, so that their approval has common significance. The common minimum general standard should be effective immediately for all new technology plans. After the interim period all preapproved plans should need to be reapproved under this standard before they are used in a new application.

The Working Group has attempted to design a standard that minimizes any burden on applicants and approvers and is as consistent as possible with existing standards of review. The standard that we recommend is as follows:

The technology plan under review consists of a rational strategy for the use of information technology in the activities of the schools and libraries that it covers, including integration of that technology into the library services and curriculum of the schools. In addition to describing all activities eligible for support under the Universal Service provisions, the plan provides for the acquisition and use of hardware, software and staff development necessary for the effective use of the eligible services. The plan is in sufficient detail to enable judgment of the validity of the request for Universal Services in meeting the objectives for use of

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seeking peer review under SLC's own system. Since extensive State review of technology plans already takes place, the Working Group is not recommending any expense reimbursement for approvals under State jurisdiction. At least as long as the grandfathering of previously approved plans remains in effect, the incremental burden on the States should not be substantial. If the situation changes in the future, SLC should review the matter and recommend appropriate action to the FCC.



information technologies in the plan. It also includes an evaluation component.<sup>22</sup>

Appendix B is a recommended checklist for the use of approvers to facilitate applying each element of this standard.

Under most existing Federal and State programs, approvals of technology plans are limited to five years or less. The Working Group believes that long-range planning is important for the effective use of information technology in schools and libraries. Nevertheless, because of the rapidly changing nature of information technology and the integral role of the technology plan in the E-rate application process, we also believe that a five-year limitation would be appropriate in this case. Thus, the Working Group recommends that all technology plans supporting a particular E-rate application must have been approved within five years of the application.

Since the E-Rate Ruling authorizes USF support for multiyear contracts, subject to the filing of annual funding requests (§536-37, 544, 579), the Working Group also considered whether an application could include services that would not be rendered until after the expiration of the plan approval. Because of the short life-span of technology generations, we believe that very long-term commitments should be approached with great caution by schools and libraries. There may, however, be situations, such as lease-purchase arrangements or very large capital investments by the applicant or the service provider, in which extended commitments are appropriate. Accordingly, the Working Group is not recommending any arbitrary limit on the terms of contracts supported by the E-rate. On the other hand, however, it would be inconsistent to require a technology plan to support a request for services and then allow the applicant to commit itself for services beyond the time horizon of its own plan. Therefore, the Working Group recommends that the technology plan be required to justify the requested services for the entire duration of the contract, either with respect to actual use of the services or as a desirable payment option.

Schools, libraries and higher-level entities are subject to a variety of requirements for technology plans. There should be no need for a separate E-rate plan. The Working Group recommends that the FCC make clear that even after the interim period an existing technology plan, including those preapproved for the interim period, may satisfy the E-rate requirement as long as it has been approved in accordance with the above standard.

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<sup>22</sup>Certain communications services, such as telephone or paging services, should not require a technology plan.